

11. (Amended) The method of claim 2 wherein the dairy product is sterilized.

C₃
12. (Amended) The method of claim 3 wherein the dairy product is sterilized.

13. (Twice Amended) The method of claim 4 wherein the dairy product is sterilized.

C₄
14. (Twice Amended) The method of claim 5 wherein the dairy product is sterilized.

C₅
20. (Amended) The method according to claim 7 in which the dairy product is sterilized.

Please cancel ~~claim 4~~.

Please add the following claim:

C₆
21. (New) The method according to claim 10, in which the bacterium originates from one of the following set of strains: *Micrococcus luteus*, *Arthrobacter*, *Corynebacterium* or *Arthrobacter ssp.*

REMARKS

The Present Invention

The present invention is directed to a method for preparing a dairy product. The method comprises adding a lactose-negative, food-technologically acceptable micro-organism to a medium comprising milk or a milk product. The method further comprises ripening the micro-organism under aerobic conditions, and bringing the resulting product under anaerobic conditions such as to have aromas of the ripening strain formed. The present invention also is directed to the dairy product produced by the method.

The Pending Claims

Claims 1-3 and 5-21 are currently pending. Claims 1-3, 5, 6, 8-14, and 18-21 are directed to a method for preparing a dairy product or a food comprising a dairy product. Claims 7 and 15-17 are directed to a dairy product.

The Claim Amendments

Claims 1, 6, 11-14, and 20 have been amended to point out more particularly and claim more distinctly the present invention. Amended claim 1 is supported by the published parent PCT application at, for example, page 6, lines 1-6 and lines 33-36. Amended claims 6, 11-14,

and 20 are supported by the published parent PCT application at, for example, page 3, lines 25-33, and Example 2. Claim 21 is new and serves to correct the dependency of previous claim 4. Accordingly, no new matter has been added by way of these amendments. Separate documents setting forth the precise changes to the claims, as well as the text of all the pending claims as amended, are attached hereto.

The Office Action

Claims 6, 11-14, and 20 have been rejected under 35 U.S.C. § 112, first paragraph, for allegedly containing subject matter, which is not sufficiently described in the specification. Claims 1-20 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as allegedly being obvious in view of, Kwak et al., Duitschaeffer et al., Saita et al., or Kamaly et al. Reconsideration of these rejections is hereby requested.

Discussion of Rejection under 35 U.S.C. § 112, first paragraph

Claims 6, 11-14, and 20 have been rejected under Section 112, first paragraph, for allegedly containing subject matter, which was not described in the specification in such a way as to enable one skilled in the art to practice the claimed invention. The rejection is respectfully traversed for the reasons set forth below.

According to the Office, the instant specification does not describe what is encompassed by the term "thermized." Claims 6, 11-14, and 20 have been amended to replace the term "thermized" with "sterilized," as supported in the published parent PCT application at, for example, page 3, lines 25-33. One of ordinary skill in the art would appreciate that "thermized" and "sterilized" is meant to refer to heat treatment to increase keeping quality (see, for example, page 7, lines 8-10). Indeed, "sterilization" is an art-recognized term, and parameters for sterilization of a product are known in the art. For example, sterilization techniques are known to be defined by a commonly known range of temperatures (e.g., with a lower limit of 57° C) in combination with a suitable heating time to stabilize the product. Exemplary times and temperatures for sterilization are provided in the specification at, for example, Examples 1 and 2. Thus, in view of the specification, an ordinarily skilled artisan would understand the metes and bounds of the claims, and would be able to practice the invention as presently claimed. Accordingly, the rejection under Section 112, first paragraph, should be withdrawn.

Discussion of Rejection under 35 U.S.C. § 102(b) or 35 U.S.C. § 103(a)

Claims 1-20 have been rejected under Section 102(b) as allegedly being anticipated by Kwak et al., Duitschaeffer et al., Saita et al. (EP 0346884), or Kamaly et al., or, in the alternative,

under 35 U.S.C. § 103(a) as allegedly being obvious in view of the references. These rejections are respectfully traversed for the reasons set forth below.

The Office concedes that the pending claims differ from the cited art as to the specific recitation of a step of the method performed under aerobic conditions and a step of the method performed under anaerobic conditions. However, the Office contends that these separate steps are inherent and/or obvious to the methods described in the cited references. On the contrary, the methods of the prior art do not entail ripening a lactose-negative, food-technologically acceptable micro-organism in a medium under aerobic conditions and then bringing the resulting product under anaerobic conditions.

Kwak et al. describes a method comprising only anaerobic conditions. The Kwak et al. reference discloses a method for manufacturing Kefir using a non-lactose fermenting yeast, wherein the steps of the method are performed under *anaerobic* conditions. The method comprises inoculating yeast starter cultures, which are composed of lactose-negative microorganisms, into reconstituted non-defatted milk (NDM) containing glucose, and then incubating the cultures to produce alcohol. The fermentation process is carried out under *anaerobic* conditions. In a second step, lactic acid bacteria are added to the cultures, which are then inoculated in reconstituted NDM under *anaerobic* conditions. Fermentation of a medium using lactose-negative microorganisms under aerobic conditions causes the microorganisms to degrade the fatty material and the proteins in the medium in the absence of sugar consumption, thus resulting in no alcohol production. In contrast, the anaerobic conditions employed in the method of the Kwak et al. reference causes the lactose-negative microorganisms to convert glucose into alcohol without degradation of the fatty material or the proteins. For example, Figure 1 of the Kwak et al. reference illustrates that the anaerobic processes described therein results in substantial alcohol production, unlike the method of the present invention. The Kwak et al. reference does not teach a method comprising an aerobic step to promote fatty acid degradation and, by extension, a dairy product created by such a method. Accordingly, the Kwak et al. reference does not anticipate, nor render obvious, the invention as defined by the pending claims.

Like the Kwak et al. reference, the Duitschaever et al. reference describes a method for producing Kefir utilizing only *anaerobic* conditions. The method comprises a first step of fermentation of a milk product by lactic acid bacteria under anaerobic conditions as evidenced by the decrease in pH (see, for example, page 4, column 5, lines 38-39, page 4, column 6, lines 16-17, and page 4, column 6, lines 50-54), which can only be due to the production of lactic acid. A second step involving the addition of lactose-negative microorganisms (*S. cerevisiae*) to the fermented product in glass bottles which are subsequently sealed with a crown cap (i.e., under *anaerobic* conditions) is then performed. Mere mixing of a milk- or milkproduct-containing

medium does not require aerobic conditions as alleged by the Office. In fact, the Office does not point to any portion of the Duitschaever et al. reference that allegedly teaches use of aerobic conditions to create a dairy product. The Duitschaever et al. reference does not disclose, or even reasonably suggest, treatment of a medium with lactose-negative microorganisms under aerobic conditions, as required by the pending claims. Moreover, because the Duitschaever et al. reference fails to teach an aerobic step, the aroma imparted to the resulting dairy product will not be the same as that described by the present invention, which stems from processing the medium under both aerobic and anaerobic conditions. As such, the Duitschaever et al. reference does not anticipate, nor render obvious, the invention as defined by the pending claims.

Similarly, the Saita et al. reference discloses a method for preparing Kefir solely under *anaerobic* conditions. The method comprises a first step of fermentation of a milk product with lactic acid bacteria under anaerobic conditions, as evidenced by the production of lactic acid (see, for example, Example 1). Sugars are then added for alcohol fermentation before continuation of the fermentation process using a lactose-negative microorganism (*S. blisporus*) under anaerobic conditions. Accordingly, the Saita et al. reference does not disclose, or even reasonably suggest, the step of the presently claimed method wherein a medium is treated with lactose-negative microorganisms under *aerobic* conditions. Moreover, because the Saita et al. reference fails to teach an aerobic step, the aroma imparted to the resulting dairy product will differ from that of the present invention. As such, the Saita et al. reference does not anticipate, nor render obvious, the invention as defined by the pending claims.

The Kamaly et al. reference discloses a method for manufacturing cheddar cheese using microorganisms both lactose-negative and proteinase-negative. The Kamaly et al. reference describes inoculating cheese milk with mutant *Streptococcus lactis*. Since the inoculated bacteria are growing inside the mass of the cheese milk, the method disclosed in the Kamaly et al. reference must be performed under *anaerobic* conditions. Moreover, because the Kamaly et al. reference fails to teach an aerobic step, the aroma imparted to the resulting dairy product will differ from that of the present invention. Accordingly, the presently claimed method comprising two different steps in which aerobic and anaerobic conditions are interchanged is clearly both novel and inventive over the Kamaly et al. reference.


None of the cited references teach, or even reasonably suggest, a method for preparing a dairy product comprising a step of treating a medium under aerobic conditions with a lactose-negative microorganism, then maintaining the medium under anaerobic conditions. The Office has not provided any support for its contention that the prior art methods art inherently comprise separate aerobic and anaerobic. Moreover, none of the cited references suggest the possibility of adding an aerobic step in the process, which would facilitate the production of aromas during the

subsequent anaerobic process. Accordingly, the rejection of claims 1-20 under Sections 102(b) or 103(a) should be withdrawn.

Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

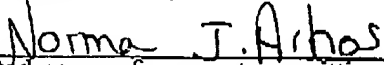

Mark Joy, Reg. No. 83,362
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson
Chicago, Illinois 60601-6780
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)


Date: March 4, 2003

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this RESPONSE TO OFFICE ACTION (along with any documents referred to as attached or enclosed) is being transmitted by facsimile to the United States Patent and Trademark Office, Attention: Examiner Leslie Wong, Art Unit 1761, Facsimile Number (703) 872-9311, on the date indicated.

Dated: March 4, 2003


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RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 1761

PATENT
Attorney Docket No. 209684

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Vermin et al.

Application No. 09/787,004

Art Unit: 1761

Examiner: Leslie Wong

Filed: May 23, 2001

For: DAIRY PRODUCT AND METHOD FOR PREPARING SAME

AMENDMENTS TO CLAIMS MADE IN RESPONSE TO
OFFICE ACTION DATED OCTOBER 18, 2002
(additions indicated by underlining, deletions indicated by brackets)

1. (Amended) A method for preparing a dairy product comprising the steps of:
- (a) adding a lactose-negative, food-technologically acceptable micro-organism to a medium comprising milk or a milk product;
 - (b) ripening said micro-organism under aerobic conditions; and
 - (c) bringing the resulting product under anaerobic conditions ~~(such as to have aromas of the ripening strain formed)~~
- [treating a medium comprising milk or a milk product under aerobic conditions with a lactose-negative, food-technologically acceptable microorganism to render a treated medium comprising milk or a milk product, and
maintaining the treated medium comprising milk or a milk product under anaerobic conditions].

[4. The method according to claim 2, in which the bacterium originates from one of the following set of strains: *Micrococcus luteus*, *Arthrobacter*, *Corynebacterium* or *Arthrobacter ssp.*]

6. (Amended) The method according to claim 1 in which the dairy product is sterilized [thermized].

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11. (Amended) The method of claim 2 wherein the dairy product is sterilized [thermized].
12. (Amended) The method of claim 3 wherein the dairy product is sterilized [thermized].
13. (Twice Amended) The method of claim 4 wherein the dairy product is sterilized [thermized].
14. (Twice Amended) The method of claim 5 wherein the dairy product is sterilized [thermized].
20. (Amended) The method according to claim 7 in which the dairy product is sterilized [thermized].
21. (New) The method according to claim 10, in which the bacterium originates from one of the following set of strains: *Micrococcus luteus*, *Arthrobacter*, *Corynebacterium* or *Arthrobacter ssp.*